

2018

Oklahoma State Workforce Briefing



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APPENDICES AVAILABLE

- Appendix A: Equal Opportunity Data
(<https://oklahomaworks.gov/wp-content/uploads/2018/07/2018-State-Workforce-Briefing-Appendix-A-Equal-Opportunity-Data.pdf>)
- Appendix B: North American Industry Classification System (NAICS) Industry Sectors with Associated Sample Industries
(<https://oklahomaworks.gov/wp-content/uploads/2018/07/2018-State-Workforce-Briefing-Appendix-B-NAICS-Industry-Sector-Codes.pdf>)
- Appendix C: 2018 Standard Occupational Classification (SOC) Codes with Associated Minor Groups
(<https://oklahomaworks.gov/wp-content/uploads/2018/07/2018-State-Workforce-Briefing-Appendix-C-SOC-Occupational-Codes.pdf>)
- Appendix D: 2018 Critical Occupations List
(<https://oklahomaworks.gov/wp-content/uploads/2018/07/2018-State-Workforce-Briefing-Appendix-D-Critical-Occupations.pdf>)

Key Findings

- There is a significant, increasing need for **highly skilled, highly educated residents** in Oklahoma. Between 2018 and 2028, Oklahoma is predicted to experience a 15 percentage point Skills Gap. Approximately 69% of all jobs created during that time frame will require some type of postsecondary education including certificates, credentials, and degrees. Currently, only 54% of Oklahomans meet those educational requirements.
- Over 14% of Oklahomans over the age of 25 possess less than a high school education and **Oklahoma lags behind the nation** in higher education attainment.
- **Race and ethnicity disparities in educational achievement** exist in Oklahoma. American Indian or Alaska Natives are 25% less likely to obtain a college degree than Whites while nearly four times as many Hispanics possess less than a high school education than Non-Hispanics.
- Oklahoma unemployment traditionally trended below the national rate; however, **the gap between the two rates steadily narrowed**. Since May 2016, the two rates have moved in tandem, experiencing only minor differences. Preliminary data for April 2018 indicates Oklahoma experienced its lowest unemployment rate in at least 5 years at 3.8%.
- **Oklahoma's total population continues to grow**. Since 2013, the state added approximately 123,000 new residents, a growth rate of 3.2%. This trend is predicted to continue through 2028 at a slightly slower rate of 2.9%.
- While the population is less racially and ethnically diverse than the nation as a whole, that trend is changing. Significant growth rates are noted in smaller minority populations such as those of Asian or of Native Hawaiian/Pacific Islander descent. High growth rates are also found among the much larger cohort of individuals of Two or More Races. With regard to ethnicity, **the growth rate of the Hispanic population** is over seven times that of Non-Hispanics.
- **Communication barriers exist for many Oklahomans**. Approximately 10.8% of Oklahomans, age 18 to 64, speak a language other than English in their home. Most speak Spanish; however, a broad range of languages are represented in the state. Over one-quarter of these non-native English speakers rate their English proficiency as "Not Well" or indicate they are unable to speak English at all.
- **Oklahoma's residents are aging**. As a percentage of the overall state population, by 2027, the working-age population (15 to 64 years) is expected to decline by 0.9 percentage points. Conversely, during the same time period, the representation of older residents, over 65 years of age, will increase 2.7 percentage points, from 15.3% to 18.0%.
- **Oklahomans experience a high rate of disability**. At 13.9%, the state reports the sixth-highest disability rate in the nation among residents aged 18 to 64. The overall disability rate for all ages increases to 15.7%, predominantly due to the inclusion of citizens age 65 and over.
- **The job growth outlook is positive** with an anticipated 10-year growth rate of 6.6%, an increase of 110,500 new jobs by 2028. Many of these jobs will be created within two of Oklahoma's industry clusters (ecosystems), Construction and Health Care.

Introduction

The future of Oklahoma depends upon a strong and capable workforce. Oklahoma employers face an ever-increasing need for highly skilled capable workers. To meet this demand, Oklahoma Works, a coalition of state agencies, businesses, educational institutions, and other entities, facilitates the connection between potential employees and businesses, increasing the wealth of all Oklahomans through providing education and training for citizens to obtain quality employment.

The purpose of this briefing is to examine the current and projected future status of the state, its citizens, and workforce. Included analyses address topics such as population, educational attainment, employment/unemployment, equal opportunity, and industry growth, among others. Sources for all data are cited. The primary data source utilized is EMSI – Economic Modeling Solutions International – data release 2018.2. Other data sources are noted when applicable. Data are rounded to the nearest whole number or the nearest tenth as appropriate.

Population: Overview

According to the U.S. Census Bureau, Oklahoma ranks 28th in the nation in population. Home to an estimated 3.9 million citizens in 2018, Oklahomans represent approximately 1.2% of the national population. An examination of the population density reveals the predominantly rural nature of the state. With a total of 69,903 square miles, population density is low at only 55 persons per square mile. As a point of comparison, the most densely populated state, New Jersey, reports 1,022 persons per square mile.

Only four cities boast a population greater than 100,000 including Oklahoma City (620,015), City of Tulsa (399,906), Norman (118,974), and Broken Arrow (104,869). On a broader scale, Oklahoma possesses three Census Bureau-designated Metropolitan Statistical Areas (MSAs), each representing greater populations than their core cities. An MSA is defined as an urban area with a substantial population density combined with adjacent communities having a high degree of economic and social integration with that core. To qualify as an MSA, the urbanized core must include 50,000 or more inhabitants (www.census.gov). The two largest cities cited previously, Oklahoma and Tulsa, serve as core cities of an MSA, as does the smaller city of Lawton located in Comanche County.

- Oklahoma City MSA, total population of 1,407,790, represents communities located in seven counties, including Canadian, Cleveland, Grady, Lincoln, Logan, McClain, and Oklahoma;
- Tulsa MSA, total population of 1,002,712, represents communities in seven counties, including Creek, Okmulgee, Osage, Pawnee, Rogers, Tulsa, and Wagoner; and,
- Lawton MSA, total population of 126,963, represents Comanche and Cotton counties.

A fourth MSA, Fort Smith, includes communities located in two Oklahoma counties, Sequoyah and Le Flore; however, the majority of that MSA – and the greatest percentage of the MSA population – is located across the state line in Arkansas. Oklahoma is also home to 18 designated Micropolitan Statistical Areas including Ada, Altus, Ardmore, Bartlesville, Duncan, Durant, Elk City, Enid, Guymon, McAlester, Miami, Muskogee, Ponca City, Shawnee, Stillwater, Tahlequah, Weatherford, and Woodward. A Micropolitan Statistical Area is centered on an urban cluster with a population between 10,000 and 50,000 residents.

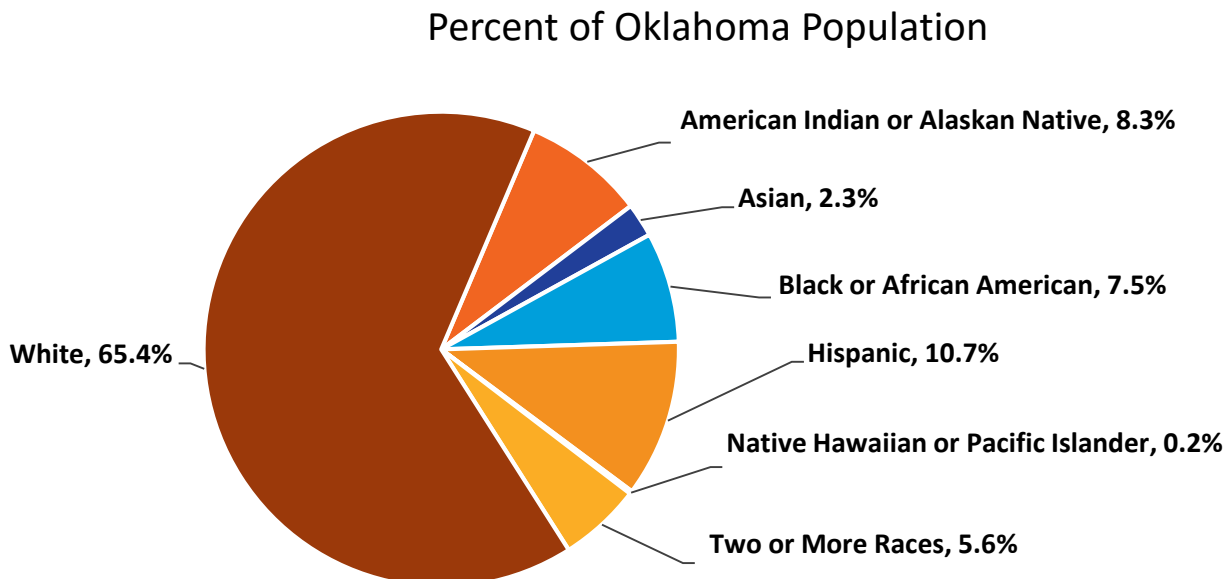
Historically, Oklahoma has exhibited population growth and is expected to continue that trend. In the past five years, the overall state population grew by approximately 123,000 residents, a growth rate of 3.2%. Predictions indicate the

rate of growth will slow between 2018 and 2028 to 2.9%; however, this rate will still add 114,000 new residents to the state population.

Population: Race and Ethnicity

Figure 1 illustrates the racial and ethnic diversity of residents living in Oklahoma. Racial categories designated by the U.S. Census Bureau are utilized. It should be noted that the Census Bureau categorizes “Hispanic,” not as a race, but as an ethnicity. As such, Hispanic is always reported in conjunction with another racial designator, i.e. “Black or African American, Hispanic.” As a result, the category of “Hispanic” represented on the chart includes individuals of any race who identify as Hispanic ethnicity. Conversely, individual races included in the chart were reported as Non-Hispanic.

Figure 1: Percent of Oklahoma Population by Race/Ethnicity



Source: EMSI 2018.2

- Overall, the race/ethnicity representation of the state is less diverse than the nation. Over 2.6 million Oklahoma residents identify themselves as White. This equates to 65.4% of the total population, a representation nearly 5 percentage points higher than the national average of 60.5%.
- At 0.2% (6,112 residents) Native Hawaiians or Pacific Islanders represent the smallest racial classification. When the Hispanic ethnicity is disaggregated, Native Hawaiians or Pacific Islanders, Hispanic, represent the overall smallest population in the state, accounting for only 1,530 residents (0.04%). While this racial cohort represents the smallest group of Oklahomans, it is projected to grow at the most rapid pace adding 15.6% or 1,193 new residents in the next 10 years.
- As a race, regardless of ethnicity, American Indian or Alaskan Native Oklahomans are significantly over-represented compared with the nation as a whole. Oklahoma reports nearly seven times the national average for this racial

category, 9.2% versus 1.3%. This result would be expected based upon Oklahoma’s Native American history and the presence of numerous sovereign tribal nations in the state.

- Individuals self-identifying as Black or African American are significantly under-represented in Oklahoma compared with the nation at 7.8% versus 13.4% respectively. Likewise, only 2.4% of the state population is Asian versus 5.9% representation at the national level.
- Individuals who self-identify as being of Hispanic ethnicity account for 10.7% of the population. As noted previously, Hispanic ethnicity is always reported in conjunction with a racial designator. This figure includes everyone of Hispanic ethnicity, regardless of race. Between 2013 and 2018, the Hispanic population in the state increased by 15.3% while Non-Hispanic population grew by only 1.9%. Projections indicate these trends will continue. Between 2018 and 2028, the Hispanic population is anticipated to grow by 12.3% versus only 1.7% for Non-Hispanics.

Table 1: Percentage of Population by Race and Ethnicity, Oklahoma versus the United States

Race/Ethnicity	State Percentage of Population	National Percentage of Population
American Indian or Alaskan Native, Non-Hispanic	8.3%	0.7%
Asian, Non-Hispanic	2.3%	5.7%
Black or African American, Non-Hispanic	7.5%	12.5%
Native Hawaiian or Pacific Islander, Non-Hispanic	0.2%	0.2%
Two or More Races, Non-Hispanic	5.6%	2.2%
White, Non-Hispanic	65.4%	60.5%
Non-Hispanic Subtotal	89.3%	81.8%
American Indian or Alaskan Native, Hispanic	1.0%	0.5%
Asian, Hispanic	0.1%	0.2%
Black or African American, Hispanic	0.3%	0.9%
Native Hawaiian or Pacific Islander, Hispanic	0.0%	0.1%
Two or More Races, Hispanic	0.6%	0.6%
White, Hispanic	8.7%	16.0%
Hispanic Subtotal	10.7%	18.2%
Total	100.0%	100.0%

Source: EMSI 2018.2

Equal Opportunity

The U.S. Equal Employment Opportunity Commission (EEOC) is tasked with enforcing federal laws that make it illegal to discriminate against job applicants and employees who are included in several diverse categories. These protected groups include age, disability, national origin, race/color, religion, and sex, among others (www.eeoc.gov). The following data serve to bring awareness of cohorts of Oklahoma citizens possibly at risk for discrimination. Data and analyses are presented for five categories specifically associated with Equal Opportunity. Age ranges for each category are aligned as closely as possible contingent upon data availability. Full data regarding Equal Opportunity are available in Appendix A.

Disability (18 to 64 years of age; Under 18 years of age).

Source: American Community Survey, 2016, 5-year Estimates

The U.S. Census Bureau collects disability data through the American Community Survey and reports it aggregated by disability type, termed “difficulties.” The six categories utilized in this report include hearing, vision, cognitive, ambulatory, self-care, and independent living difficulties. Data are self-reported by survey respondents based upon their perception of the existence of a disability/difficulty.

Current Workforce, 18 to 64 years of age.

- As of 2016, the state population was estimated at 3,794,815, of which, 2,301,565 (60.7%) reported being between the ages of 18 and 64. Of that 2.3M, over 319,900 reported a disability in at least one of the categories indicated above resulting in a state-wide disability rate of 13.9% for this age group. Primarily due to the exclusion of the 65-year-and-older age brackets, this disability rate is significantly lower than the overall 15.7% disability rate for the state which includes all Oklahoma citizens.
- The Oklahoma statewide disability rate of 13.9% for the age 18-64 cohort is significantly higher than the national rate of 10.3% for the same age group. Across the nation, Oklahoma citizens, age 18-64, report the 6th highest disability rate. Only Alabama (14.5%), Mississippi (14.8%), Arkansas (15.0%), Kentucky (15.8%), and West Virginia (17.4%) report higher disability rates for this age group.
- Disability rates are comparable for gender – 14.1% for males versus 13.7% for females.
- Disability rates for specific races and ethnicities in this age group vary significantly. Oklahomans who identify themselves as American Indian or Alaska Native report the highest rate of disability at 17.4%. Asians report the lowest incidence of disability at only 4.4%. Individuals of Hispanic ethnicity, regardless of race, experience a disability rate of 8.5%.
- Within the 18-64 age bracket, ambulatory difficulties are reported most frequently. Of the 319,000 individuals reporting a disability, 53% report experiencing ambulatory difficulties, equivalent to an estimated 169,490 residents. This figure translates into 7.4% of the total state population, age 18-64.

Cognitive difficulties rank second in prevalence at 38.9%; equal to 5.4% of the total state population age 18-64. Self-Care is the least frequently reported difficulty among individuals with disabilities at 16.7%. These patterns of prevalence of disability type are also reflected at the Workforce Development Area and County levels.

Future Workforce, Under 18 years of age.

- Approximately 25% of the state’s population is under the age of 18; a total of 950,000 residents. Of these, 46,574 reported the existence of a disability, resulting in a disability rate of 4.9%. This rate is significantly lower than the state rate for 18 to 64 year-olds of 13.9%. Multiple factors may contribute to this differential. Many disabilities manifest as the individual grows older. Conversely, impediments are often difficult or impossible to diagnose in very young children. Some of the disabilities reported to the U.S. Census Bureau are inappropriate for certain age ranges, delaying the reporting of those disabilities.
- Disability rates for this cohort are significantly higher in males as compared with females – 5.6% for males versus 4.1% for females.

- Disability rates for specific races vary significantly. Individuals who self-identify as American Indian or Alaskan Native report the greatest rate of disability for this age group at 5.9%.

Asians report the lowest incidence of disability (2.1%). Additional data indicate Asians also tend to exhibit the lowest disability rates at the Workforce Development Area and County levels. Further research is necessary to determine if this trend presents an accurate representation of the disability rates for individuals of Asian descent or if other factors such as privacy concerns, a reluctance to report the existence of disabilities, or cultural beliefs may be skewing the data.

- Within the Under 18 age bracket, cognitive difficulties are reported most frequently. Of the 46,574 individuals reporting a disability, 65.8% report experiencing cognitive difficulties, an estimated 30,662 residents. This figure translates into 3.2% of the total state population Under 18 years. Vision difficulties rank second in prevalence at 22.3%; equal to 1.1% of the state population. Due to the age limitations, independent living difficulties are not applicable for this population. These patterns of prevalence of disability type are also generally reflected at the Workforce Development Area and County levels.

Age and Gender (15 to 64 years of age).

Source: EMSI, 2017.4

- The Oklahoma workforce is contracting, with fewer workers projected in this age range within the next 10 years. The total 2017 estimated statewide population for the 15- to 64-year-old age group was just over 2.53 million. By 2027, that number is expected to decline by 0.9% to 2.52 million. In 2017, this age group accounted for 64.2% of the total population; by 2027, it will only account for 61.5%.
- The population of the state is aging. The number of residents over the age of 65 is expected to increase by 21.7% in the next 10 years. During that same time frame, the number of youth under the age of 15 will only increase by 3.2%.
- Regarding gender, in 2017, the age group is split relatively equally – 50.2% male and 49.8% female. While the overall population is anticipated to decrease by 2027, that decline disproportionately affects females. The gap between the genders will widen by 0.2 percentage points, 50.4% male compared with 49.6% female.
- Five of the ten age brackets examined will experience a decline in population, ranging from 4.6% to 15.8%. The greatest decline is in the 55 to 59 years of age bracket with the population dropping from 256,000 in 2017 to 216,000 in 2027.

Race and Ethnicity (15 to 64 years of age).

Source: EMSI, 2017.4

A previous section of this report analyzed race and ethnicity of the total population in the state. This section examines only those Oklahoma residents of typical workforce age, from 15 to 64 years.

- According to EMSI, in 2017 an estimated 2,537,445 Oklahoma citizens were between the ages of 15 and 64, approximately 64.2% of the total population.

- The most prevalent race, regardless of ethnicity, was reported as White, representing 74.3% of this age group. American Indian or Alaskan Native ranked second, accounting for 9.3% of the age 15-64 population. Only 4,855 Oklahomans self-identified as Native Hawaiian or Pacific Islander, less than 1% of the total population.
- When ethnicity is considered in conjunction with race, White, Non-Hispanic described the largest group with 65.8% representation. American Indian or Alaskan Native, Non-Hispanic ranked second with 8.5%. The racial/ethnic combination of Native Hawaiian or Pacific Islander, Hispanic represented the smallest cohort at less than 1% of the age-group population – a total of only 1,018 individuals.
- A comparison of ethnicity, regardless of race, indicates that Non-Hispanics were approximately nine times more prevalent than Hispanics – 89.8% compared with 10.2%, respectively.
- Projections for 2027 reveal that the overall population in this age bracket will decrease by 0.9% and the racial and ethnic diversity will change significantly:
 - Regarding ethnicity, the Non-Hispanic population is anticipated to decrease by 2.8% while the Hispanic population increases by 16.4%.
 - The White racial category is predicted to maintain its majority of the population but decline by 1.4 percentage points to 72.9%. White is the only racial category anticipated to decrease at the statewide level.
 - The Native Hawaiian or Pacific Islander and Asian races will grow substantially, by 24.9% and 16.4% respectively. Despite these gains, representation by these two races among this age population will remain small with a combined total of only 3.3% of the population.
 - The representation of multiracial Oklahomans is also expected to increase, growing from 5.3% in 2017 to 5.9% by 2027.

English Language Learners (18 to 64 years of age).

Source: American Community Survey, 2016, 5-year Estimates

The U.S. Census Bureau collects data regarding English usage and perceived fluency via the American Community Survey. Survey recipients are first requested to identify the primary language spoken in their home. Language choices are limited to “Spanish,” “Other Indo-European Language,” “Asian and Pacific Island Language,” or “Other Language.” Respondents who indicate they speak a language other than English are then asked to estimate their level of fluency in English (“How well does this person speak English?”). Four responses are available to this question: “Very Well,” “Well,” “Not Well,” or “Not at All.”

- Over 254,000 Oklahoma residents between the ages of 18 and 64 report speaking a primary language other than English in their home. This represents 10.8% of the population in this age bracket. Conversely, 89.2% of respondents indicated they spoke “English Only” in the home.
 - Spanish is the most commonly reported primary language other than English. Over 66% of non-native English speakers report speaking Spanish at home. Asian and Pacific Island Languages rank second in prevalence, but at a much lower level of 16.2%.
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- Statewide, approximately 74.9% of non-native English speakers indicated they speak English either “Very Well” or “Well.” An additional 18.5% rate their level of English proficiency at “Not Well,” with 6.6% reporting that they are unable to speak English at all.
- As a whole, native Spanish speakers rate their perceived English proficiency the lowest with 31.1% indicating they speak English either “Not Well” or “Not at All.” In comparison, individuals who report they speak “Other Indo-European Languages” report low English proficiency levels at only 6.9%.
- “Other Language” speakers report a low English proficiency level of 5.8%. While this proficiency level is below that of those who speak “Other Indo-European Languages” reported previously, there is no indication of the types of languages this category includes. It can be assumed that the variety of languages and dialects is very broad. As a result, this data point provides limited insight into identifying Oklahomans who may or may not be at risk of being marginalized due to language preferences.

Religious Affiliation.

While religion is a key component of concern for discrimination regarding equal opportunity, data pertaining to religious beliefs and affiliations is limited. Privately-conducted surveys are the predominant source of information available including the Pew Research Center Religious Landscape Study (<http://www.pewforum.org/religious-landscape-study/state/oklahoma/>), a 2009 Religious Affiliation study conducted by InfoGroup and reported via Social Explorer at the University of Wisconsin Extension (<https://fyi.uwex.edu/community-data-tools/2011/12/05/detailed-data-on-religion-by-county/>), and a 2010 Gallup Poll that quantifies perceived feelings of religious discrimination. Additional information is referenced in this report from local newspaper articles and the U.S. Equal Employment Opportunities Commission (EEOC). Despite the limitations of these sources, the statistics included in this report can assist in building a framework for the context of Oklahomans’ religious beliefs and help to identify the potential for increased risk factors of religious discrimination.

- Most Oklahomans identify with the Evangelical Protestant church. Over 4,200 congregations exist with nearly one million members – 56.7% of all survey respondents. Another 18% identify themselves as Mainline Protestant while 8.4% are Roman Catholic. While there are 66 Latter-Day Saint (Mormon) congregations identified in the state, the membership of those congregations constitutes only 0.7%.
- As indicated above, Roman Catholicism only accounted for 8.4% of the total state religious affiliation, but at 804 members per congregation, presents the highest average congregation size. This congregation size is 2.3 times the size of the next largest, Hindu at 350 average members and Mainline Protestants at 346 average members per congregation. In short, while reporting fewer religious institutions, the Roman Catholic faith draws greater average numbers of members to each institution from the surrounding geographic area.
- At the time of the studies, there was minimal representation in Oklahoma of Non-Christian faiths. Less than one percent each of Oklahomans identified their religion as Islam, Hindu, or Buddhist. Together, these faiths only accounted for nine congregations with a total combined membership of less than 2,000. Further research, however, indicates that these faiths may have grown significantly since the surveys were conducted. According to a 2015 article in the Tulsa World (http://www.tulsaworld.com/how-many-mosques-in-oklahoma/image_72e4dd94-4a33-5c7c-8ed4-ae352eb968b8.html), Islam now boasts nine religious centers, predominantly located in Oklahoma City and Tulsa, but with one each in Stillwater and Edmond as well as two in Lawton. Likewise, temples of the Hindu faith appear to have increased from one to three since the survey, those being located in Oklahoma City, Tulsa, and Edmond.

- A 2010 Gallup Poll survey indicated that 48% of Muslim respondents believed they had experienced religious discrimination. Thirty-one percent of Latter Day Saint (Mormon) followers held the same belief. Only 20% of Catholics and 18% of Protestants felt they had experienced some type of bias based upon their religion. (<http://news.gallup.com/poll/157082/islamophobia-understanding-anti-muslimsentiment-west.aspx>).
- While EEOC data does not appear to be available at the state level, nationally, religion-based discrimination charges filed with the EEOC rose steadily from 1997 to 2016. In 1997, the EEOC received 1,709 filings based upon perceived discrimination due to religion; 20 years later, in 2016, the EEOC received 3,825 filings, an increase of more than 123%. Additionally, the mixture of findings has altered with significant monetary impact. In 1997, 12.1% of charges received merited resolutions with a monetary benefit total of \$2.2 million dollars (\$3.3M in 2016 dollars). After reaching a peak at 24.1% merit resolutions with monetary benefits of \$6.4M 2007 (\$7.5M 2016), merit resolutions dropped in 2016 to 14.9%. Despite this 2016 drop in the percentage of claims upheld, awards rose as monetary benefits reached \$10.1 million dollars. Clearly, while merit was found in a lesser number of religion-based EEOC claims in 2016, the average damage award/settlement per merited finding increased. (<https://www.eeoc.gov/eeoc/statistics/enforcement/religion.cfm>).

Unemployment (40 to 64 years of age).

With regard to unemployment figures, data concerning individuals in the protected age category of 40 and over is difficult to extract. Most sources provide data broken into age ranges inconsistent with these protected class parameters. The data provided in this report was mined via the Data Ferret application from the U.S. Census Bureau's 2016 American Community Survey Public Use Microdata Sample (PUMs).

- Nearly 1.2 million Oklahoma citizens report being between the ages of 40 and 64; of that cohort, 843,779 are included in the labor force. This equates to a labor force participation rate of 70.4%. This participation rate is significantly lower than the national rate of 74.3% for the same age group.
- In 2016, statewide, 38,871 respondents reported they were unemployed, representing an overall unemployment rate of 4.6%. Nationally, for a comparable period, the unemployment rate was lower than the Oklahoma rate, at 4.1%.
- Females were 8% less likely to be unemployed than males. Of the total male population within this age cohort, 4.8% reported being unemployed. For females, the unemployment rate was 4.4%.
- With regards to race, respondents self-identifying as Native Hawaiian or Pacific Islander reported the highest unemployment rate at 49.4%. It must be noted, however, that this is a very small population in this age cohort, accounting for only 2,200 residents or approximately 1/5th of 1%. Those respondents of Black or African American race reported the second highest unemployment rate at 8.9%. This equated to 4,590 individuals participating in the labor market, but without a job.
- Asians reported the lowest incidence of unemployment at 3.5%. Again, while not as limited a population as those in the Native Hawaiian or Pacific Islander category, respondents self-reporting as Asian only account for 1.8% of the cohort.
- Whites, constituting 77.1% of the 40-64 years of age cohort, experienced an unemployment rate of 3.7%.

- Respondents identifying themselves as of Hispanic ethnicity are more likely to be unemployed than Non-Hispanics, 5.1% and 4.6% respectively. Hispanics represent 7.4% of the 40-64 years' age bracket.
- Individuals in this age cohort who self-identify as possessing a disability participate in the labor force at only 36.3% and the unemployment rate is 10.4%. In comparison, individuals without a disability exhibit a 79.2% labor force participation rate and a 3.9% unemployment rate.

Educational Attainment: Level of Education

Data regarding educational attainment are gathered by the U.S. Census Bureau utilizing a variety of surveys. Census Bureau staff aggregate the data into seven educational attainment categories ranging from the completion of "Less than 9th Grade" up to the attainment of a "Graduate Degree and Higher." Unfortunately, the scale currently in use fails to quantify those individuals who have achieved an educational award above the level of a high school diploma but below the attainment of an Associates Degree. This missing category is generally characterized by the completion of a career-specific vocationally associated certificate or an industry-recognized credential. The educational attainment levels, categorized utilizing the Census Bureau classifications, are discussed below and followed by one chart, "Educational Attainment by Race/Ethnicity," and two tables, "Educational Attainment by Level" and "Educational Attainment by Gender." The data is provided for 2018.

Overall, Oklahoma lags behind the nation in terms of educational attainment:

- The state has a marginally lower percentage of residents with an educational attainment level of less than high school completion (14.0% versus 14.2%); however, the educational progress of significantly more Oklahomans has ended with the receipt of a high school diploma, 31.7% versus 27.8% nationally. Combined, these two factors result in Oklahoma reporting attainment rates for the category of "High School Diploma or Less" at 45.7%, nearly 4 percentage points above the national level of 41.9%.
- A greater percentage of Oklahomans have attended "Some College" than the national level, 23.5% versus 20.7%, however it must be noted that this category represents individuals who have not completed any type of degree. This is a key group to target for incentives to return to school and complete their degree.
- The percentage of Oklahomans obtaining an Associates degree is comparable to the national average.
- Due to the significant percentage of Oklahomans reporting lower levels of education, at the attainment level of Bachelor's degree or higher, Oklahoma residents lag behind the national average by nearly six percentage points. Data indicate approximately 29.5% of people across the nation complete the coursework necessary for a Bachelor's degree or higher. In Oklahoma, that percentage drops to 23.8%. This nearly six percentage point differential is divided relatively equally between the sub-categories of "Bachelor's degree" and "Graduate degree and higher" with Oklahoma lagging approximately 3 percentage points behind the nation at each level.
- Significant differences exist within the state regarding educational attainment. As may be expected, residents who report earning some level of college/university degree are heavily centered in Oklahoma's metropolitan areas – Oklahoma City MSA and Tulsa MSA – and to a lesser degree, Lawton MSA. Other counties exhibiting higher than average degree-completion rates such as Payne, Muskogee, and Garfield, are home to multiple institutions of higher education.

Table 2: Educational Attainment by Level, State versus National Averages

Educational Level	State of Oklahoma Percentage of Population	National Percentage of Population	Percentage Point Differential
Less Than 9 th Grade	5.3%	6.4%	(1.1)
9 th Grade to 12 th Grade	8.7%	7.7%	1.1
Subtotal of Less than a High School Diploma	14.0%	14.2%	0.2
High School Diploma	31.7%	27.8%	3.9
Subtotal of High School Diploma or Less	45.7%	41.9%	3.8
Some College	23.5%	20.7%	2.8
Associates Degree	7.1%	7.9%	(0.3)
Bachelor's Degree	15.9%	18.4%	(2.5)
Graduate Degree or Higher	8.0%	11.1%	(3.1)

Source: EMSI, 2018.2

Educational Attainment: Race and Ethnicity

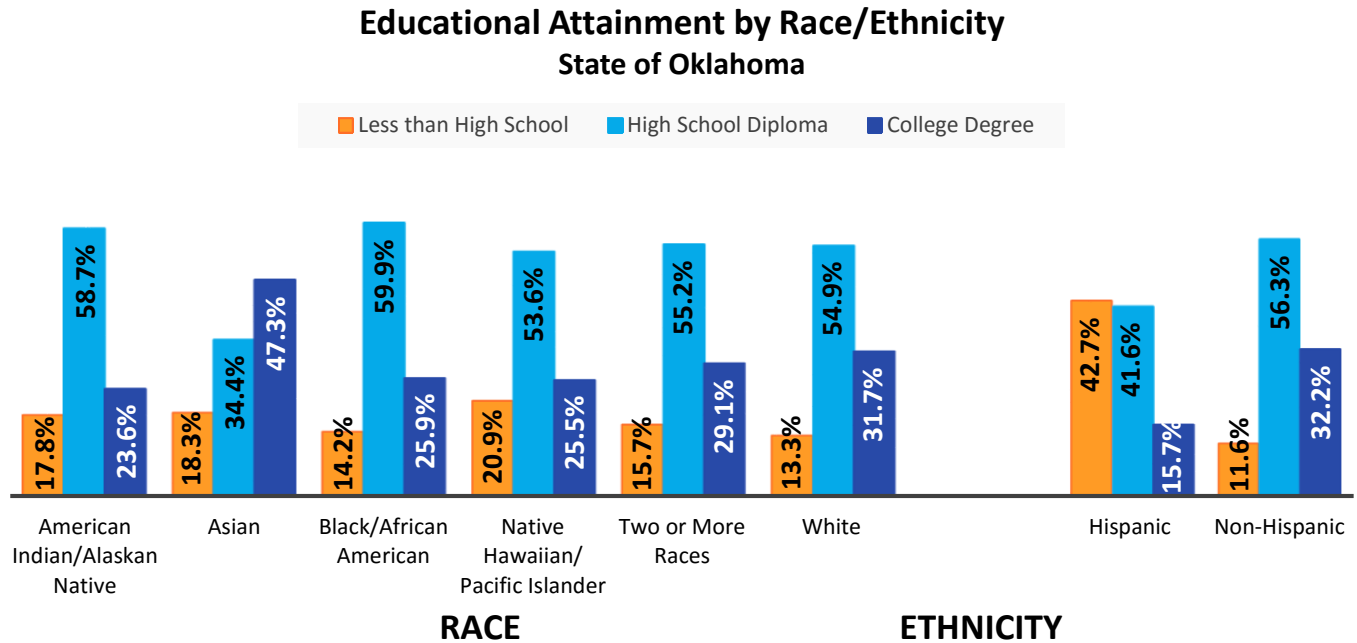
The variables of race and ethnicity figure prominently in the educational achievement of Oklahoma residents. Unless otherwise noted, the racial category data cited below are reported in aggregate, irrespective of ethnicity.

- For virtually all racial cohorts, educational attainment is heavily centered at the level of “High school diploma,” displaying completion rates greater than 50%.
 - The exception to this trend is found in the racial category of “Asian” at 34.4%. This low percentage at the level of high school completion results in significant increases in the two remaining categories of “Less than High School” and “College Degree.”

Most respondents in this racial cohort have attained a college degree (47.3%); however, over 18% of Asians report attaining a level of “Less than High School.” This rate is second only to Native Hawaiian or Pacific Islanders at 20.9%, though it must be noted that the representation of that group in Oklahoma’s population is extremely small, accounting for only 4,000 residents state-wide.
 - Individuals who self-identify as Black or African American report possessing a high school diploma at a higher rate than any other race (59.9%). American Indian or Alaskan Native residents rank second at 58.7%
- Whites report the lowest rate of “Less than High School” education at 13.3%. This rate is equal to the national rate for the same racial cohort.
- At the college degree level, as noted previously, Asians report the highest rate of completion at 47.3%. Ranking second, Whites complete a degree at a significantly lower level of 31.7%.
- The most significant educational attainment gap is revealed by an examination of data associated with ethnicity, particularly at the lower educational levels. An estimated 42.7% of Hispanics possess an educational level less than a

high school diploma, nearly four times the rate of Non-Hispanics (11.6%). Regarding college degrees, Non-Hispanics are twice as likely to obtain a degree than are Hispanics.

Figure 2: Educational Attainment by Race and Ethnicity



Source: EMSI, 2018.2

Educational Attainment: Gender

With regards to gender, males are less likely to complete a college degree – 29.9% versus 31.8% for females – but are somewhat more likely to obtain a high school degree than are females, 55.3% versus 54.9% respectively. Data regarding educational attainment aggregated by gender are presented in Table 3.

Table 3: Educational Attainment by Gender

Educational Level	Females	Males	Percentage Point Differential
Less Than High School	13.3%	14.8%	1.5
High School Diploma	54.9%	55.3%	0.4
College Degree	31.8%	29.9%	(1.9)

Source: EMSI, 2018.2

Educational Assets

Colleges, Universities, Career Technology Centers, and K-12 schools are instrumental in developing Oklahoma's workforce. The state is home to many institutions which help supply businesses and organizations with a workforce that has the necessary labor and skills to be competitive in today's economy.

Colleges and Universities, Public.

There are 29 public colleges and universities serving Oklahoma students at 48 campus locations. An additional 14 private institutions located at 15 campuses provide alternative choices for educational opportunities.

- **Cameron University** (Lawton, Duncan)
- **Carl Albert State College** (Poteau, Sallisaw)
- **Connors State College** (Muskogee, Warner)
- **East Central University** (Ada)
- **Eastern Oklahoma State College** (McAlester, Wilburton)
- **Langston University** (Langston, Oklahoma City, Tulsa)
- **Murray State College** (Tishomingo)
- **Northeastern Oklahoma A&M College** (Miami)
- **Northeastern State University** (Tahlequah, Broken Arrow, Muskogee)
- **Northern Oklahoma College** (Tonkawa, Enid, Stillwater)
- **Northwestern Oklahoma State University** (Alva, Enid, Woodward)
- **Oklahoma City Community College** (Oklahoma City)
- **Oklahoma Panhandle State University** (Goodwell)
- **Oklahoma State University** (Stillwater, Oklahoma City, Tulsa)
- **Oklahoma State University Center for Health Sciences** (Tulsa)
- **Oklahoma State University Institute of Technology** (Okmulgee)
- **Redlands Community College** (El Reno)
- **Rogers State University** (Claremore, Bartlesville, Pryor)
- **Rose State College** (Midwest City)
- **Seminole State College** (Seminole)
- **Southeastern Oklahoma State University** (Durant, Idabel, Weatherford, Sayre)
- **Tulsa Community College** (Tulsa)
- **University Center at Ponca City** (Ponca City)
- **University Center of Southern Oklahoma** (Ardmore)
- **University of Central Oklahoma** (Edmond)
- **University of Oklahoma** (Norman, Tulsa)
- **University of Oklahoma Health Sciences Center** (Oklahoma City)
- **University of Science and Arts of Oklahoma** (Chickasha)
- **Western Oklahoma State College** (Altus)

Colleges and Universities, Private (Independent and Proprietary).

- **Bacone College** (Muskogee)
- **Mid-America Christian University** (Oklahoma City)
- **Oklahoma Baptist University** (Shawnee)
- **Oklahoma Christian University** (Oklahoma City)
- **Oklahoma City University** (Oklahoma City)
- **Oklahoma Wesleyan University** (Bartlesville)
- **Oral Roberts University** (Tulsa)
- **Phillips Theological Seminary** (Tulsa)
- **Southern Nazarene University** (Bethany)
- **Southwestern Christian University** (Bethany)
- **Southwestern College** (Midwest City branch of Wichita, Kansas)
- **The University of Tulsa** (Tulsa)
- **University of Phoenix** (Oklahoma City, Tulsa)
- **Wayland Baptist University** (Altus branch of Plainview, Texas)

Source: Oklahoma State Regents of Higher Education
<http://www.okhighered.org/state-system/colleges-universities/list.shtml>

Career Technology Centers.

The Oklahoma Career Technology system includes 29 technology center districts located on 63 campuses:

- **Autry** (Enid)
- **Caddo Kiowa** (Fort Cobb)
- **Canadian Valley** (Chickasha)
- **Central Tech** (Drumright, Sapulpa)
- **Chisholm Trail** (Omega)
- **Eastern Oklahoma County** (Choctaw)
- **Francis Tuttle** (three Oklahoma City Campuses: Rockwell, Portland, and Reno)
- **Gordon Cooper** (Shawnee)
- **Great Plains** (Lawton, Frederick)
- **Green Country** (Okmulgee)
- **High Plains** (Woodward)
- **Indian Capital** (Muskogee, Sallisaw, Stilwell, and Tahlequah)
- **Kiamichi** (Antlers, Atoka, Durant, Hugo, Idabel, McAlester, Poteau, Spiro, Stigler, and Talihina)
- **Meridian** (Stillwater)
- **Metro Tech** (four Oklahoma City campuses: Airport, Downtown, South Bryant, and Springlake)
- **Mid-America** (Wayne)
- **Mid-Del** (Midwest City)
- **Moore Norman** (Norman, Oklahoma City)
- **Northeast** (Afton, Claremore, Kansas, and Pryor)
- **Northwest** (Alva, Fairview)
- **Pioneer** (Ponca City)
- **Pontotoc** (Ada)
- **Red River** (Duncan)
- **Southern Oklahoma** (Ardmore)
- **Southwest** (Altus)
- **Tri County** (Bartlesville)
- **Tulsa Tech** (Broken Arrow, Owasso, Sand Springs, Memorial Tulsa, Riverside Tulsa, Skyline Tulsa, and Peoria Tulsa)
- **Wes Watkins** (Wetumka)
- **Western** (Burns Flat, Elk City, Hobart, Sayre, Weatherford)

Sources: *CareerTech.org*

K-12 School Districts.

There are 546 K-12 school districts in the state of Oklahoma:

Adair County:

- **Peavine** (Stilwell)
- **Maryetta** (Stilwell)
- **Rocky Mountain** (Stilwell)
- **Zion** (Stilwell)
- **Dahlongegah** (Stilwell)
- **Greasy** (Bunch)
- **Watts** (Watts)
- **Westville** (Westville)
- **Stilwell** (Stillwell)
- **Cave Springs** (Bunch)

Alfalfa County:

- **Burlington** (Burlington)
- **Cherokee** (Cherokee)
- **Timberlake** (Helena)

Atoka County:

- **Harmony** (Atoka)
- **Lane** (Lane)
- **Stringtown** (Stringtown)
- **Atoka** (Atoka)
- **Tushka** (Atoka)
- **Caney** (Caney)

Beaver County:

- **Beaver** (Beaver)
- **Balko** (Balko)
- **Forgan** (Forgan)
- **Turpin** (Turpin)

Beckham County:

- **Merritt** (Elk City)
- **Elk City** (Elk City)
- **Sayre** (Sayre)
- **Erick** (Erick)

Blaine County:

- **Okeene** (Okeene)
- **Watonga** (Watonga)
- **Geary** (Geary)
- **Canton** (Canton)

Bryan County:

- **Silo** (Durant)
- **Rock Creek** (Bokchito)
- **Achille** (Achille)
- **Colbert** (Colbert)
- **Caddo** (Caddo)
- **Bennington** (Bennington)
- **Calera** (Calera)
- **Durant** (Durant)
- **Choctaw Nation ILC** (Durant)

Caddo County:

- **Hydro-Eakly** (Hydro)
- **Lookeba Sickles** (Lookeba)
- **Anadarko** (Anadarko)
- **Carnegie** (Carnegie)
- **Boone-Apache** (Apache)
- **Cyril** (Cyril)
- **Gracemont** (Gracemont)
- **Cement** (Cement)
- **Hinton** (Hinton)
- **Fort Cobb-Broxtton** (Fort Cobb)
- **Binger-Oney** (Binger)

Canadian County:

- **Riverside** (El Reno)
- **Banner** (El Reno)
- **Darlington** (El Reno)
- **Maple** (Calumet)
- **Piedmont** (Piedmont)
- **Yukon** (Yukon)
- **El Reno** (El Reno)
- **Union City** (Union City)
- **Mustang** (Mustang)
- **Calumet** (Calumet)

Carter County:

- **Zaneis** (Wilson)
- **Ardmore** (Ardmore)
- **Springer** (Springer)
- **Plainview** (Ardmore)
- **Lone Grove** (Lone Grove)
- **Wilson** (Wilson)
- **Healdton** (Healdton)
- **Fox** (Fox)
- **Dickson** (Ardmore)
- **Tri-County ILC** (Fox)

Cherokee County:

- **Lowrey** (Tahlequah)
- **Norwood** (Hulbert)
- **Woodall** (Tahlequah)
- **Shady Grove** (Hulbert)
- **Peggs** (Peggs)
- **Grand View** (Tahlequah)
- **Briggs** (Tahlequah)
- **Tenkiller** (Welling)
- **Keys** (Park Hill)
- **Hulbert** (Hulbert)
- **Tahlequah** (Tahlequah)
- **Cherokee Immersion Charter School** (Tahlequah)

Choctaw County:

- **Swink** (Swink)
- **Boswell** (Boswell)
- **Fort Towson** (Fort Towson)
- **Soper** (Soper)
- **Hugo** (Hugo)

Cimarron County:

- **Boise City** (Boise City)
- **Felt** (Felt)
- **Keyes** (Keyes)

Cleveland County:

- **Robin Hill** (Norman)
- **Moore** (Moore)
- **Norman** (Norman)
- **Noble** (Noble)
- **Lexington** (Lexington)
- **Little Axe** (Norman)

Coal County:

- **Cottonwood** (Coalgate)
- **Coalgate** (Coalgate)
- **Tupelo** (Tupelo)

Comanche County:

- **Flower Mound** (Lawton)
- **Bishop** (Lawton)
- **Cache** (Cache)
- **Indiahoma** (Indiahoma)
- **Sterling** (Sterling)
- **Geronimo** (Geronimo)
- **Lawton** (Lawton)
- **Fletcher** (Fletcher)
- **Elgin** (Elgin)
- **Chattanooga** (Chattanooga)

Cotton County:

- **Walters** (Walters)
- **Temple** (Temple)
- **Big Pasture** (Randlett)

Craig County:

- **White Oak** (Vinita)
- **Ketchum** (Ketchum)
- **Welch** (Welch)
- **Bluejacket** (Bluejacket)
- **Vinita** (Vinita)

Creek County:

- **Lone Star** (Sapulpa)
- **Gypsy** (Depew)
- **Pretty Water** (Sapulpa)
- **Allen-Bowden** (Tulsa)
- **Bristow** (Bristow)
- **Mannford** (Mannford)
- **Mounds** (Mounds)
- **Olive** (Drumright)
- **Kiefer** (Kiefer)
- **Oilton** (Oilton)
- **Depew** (Depew)
- **Kellyville** (Kellyville)
- **Sapulpa** (Sapulpa)
- **Drumright** (Drumright)

Custer County:

- **Arapaho-Butler** (Arapaho)
- **Thomas-Fay-Custer Unified District** (Thomas)
- **Weatherford** (Weatherford)
- **Clinton** (Clinton)

Delaware County:

- **Cleora** (Afton)
- **Leach** (Rose)
- **Kenwood** (Salina)
- **Moseley** (Colcord)
- **Jay** (Jay)
- **Grove** (Grove)
- **Kansas** (Kansas)
- **Colcord** (Colcord)
- **Oaks-Mission** (Oaks)

Dewey County:

- **Vici** (Vici)
- **Seiling** (Seiling)
- **Taloga** (Taloga)

Ellis County:

- **Fargo** (Fargo)
- **Arnett** (Arnett)
- **Shattuck** (Shattuck)

Garfield County:

- **Waukomis** (Waukomis)
- **Kremlin-Hillsdale** (Kremlin)
- **Chisholm** (Enid)
- **Garber** (Garber)
- **Pioneer-Pleasant Vale** (Waukomis)
- **Enid** (Enid)
- **Drummond** (Drummond)
- **Covington-Douglas** (Covington)

Garvin County:

- **Whitebead** (Pauls Valley)
- **Stratford** (Stratford)
- **Paoli** (Paoli)
- **Maysville** (Maysville)
- **Lindsay** (Lindsay)
- **Pauls Valley** (Pauls Valley)
- **Wynnewood** (Wynnewood)
- **Elmore City-Pernell** (Elmore City)

Grady County:

- **Friend** (Chickasha)
- **Middleberg** (Blanchard)
- **Pioneer** (Chickasha)
- **Chickasha** (Chickasha)
- **Minco** (Minco)
- **Ninnekah** (Ninnekah)
- **Alex** (Alex)
- **Rush Springs** (Rush Springs)
- **Bridge Creek** (Blanchard)
- **Tuttle** (Tuttle)
- **Verden** (Verden)
- **Amber-Pocassett** (Amber)

Grant County:

- **Medford** (Medford)
- **Pond Creek-Hunter** (Pond Creek)
- **Deer Creek-Lamont** (Lamont)

Greer County:

- **Mangum** (Mangum)
- **Granite** (Granite)

Harmon County:

- **Hollis** (Hollis)

Harper County:

- **Laverne** (Laverne)
- **Buffalo** (Buffalo)

Haskell County:

- **Whitefield** (Whitefield)
- **Kinta** (Kinta)
- **Stigler** (Stigler)
- **McCurtain** (McCurtain)
- **Keota** (Keota)

Hughes County:

- **Moss** (Holdenville)
- **Wetumka** (Wetumka)
- **Holdenville** (Holdenville)
- **Calvin** (Calvin)
- **Stuart** (Stuart)

Jackson County:

- **Navajo** (Altus)
- **Duke** (Duke)
- **Altus** (Altus)
- **Eldorado** (Eldorado)
- **Olustee** (Olustee)
- **Blair** (Blair)

Jefferson County:

- **Terral** (Terral)
- **Ryan** (Ryan)
- **Ringling** (Ringling)
- **Waurika** (Waurika)

Johnston County:

- **Mannsville** (Mannsville)
- **Ravia** (Ravia)
- **Mill Creek** (Mill Creek)
- **Tishomingo** (Tishomingo)
- **Milburn** (Milburn)
- **Coleman** (Coleman)
- **Wapanucka** (Wapanucka)

Kay County:

- **Peckham** (Newkirk)
- **Kildare** (Ponca City)
- **Blackwell** (Blackwell)
- **Ponca City** (Ponca City)
- **Tonkawa** (Tonkawa)
- **Newkirk** (Newkirk)

Kingfisher County:

- **Dover** (Dover)
- **Lomega** (Omega)
- **Kingfisher** (Kingfisher)
- **Hennessey** (Hennessey)
- **Cashion** (Cashion)
- **Okarche** (Okarche)

Kiowa County:

- **Hobart** (Hobart)
- **Lone Wolf** (Lone Wolf)
- **Mountain View-Gotebo** (Mountain View)
- **Snyder** (Mt. Park)

Latimer County:

- **Wilburton** (Wilburton)
- **Rad Oak** (Red Oak)
- **Buffalo Valley** (Talihina)
- **Panola** (Wilburton)

Le Flore County:

- **Shady Point** (Shady Point)
- **Monroe** (Monroe)
- **Hodgen** (Hodgen)
- **Fanshawe** (Fanshawe)
- **Spiro** (Spiro)
- **Heavener** (Heavener)
- **Pocola** (Pocola)
- **Le Flore** (Le Flore)
- **Cameron** (Cameron)
- **Panama** (Panama)
- **Bokoshe** (Bokoshe)
- **Poteau** (Poteau)
- **Wister** (Wister)
- **Talihina** (Talihina)
- **Whitesboro** (Whitesboro)
- **Howe** (Howe)
- **Arkoma** (Arkoma)

Lincoln County:

- **White Rock** (McCloud)
- **Chandler** (Chandler)
- **Davenport** (Davenport)
- **Wellston** (Wellston)
- **Stroud** (Stroud)
- **Meeker** (Meeker)
- **Prague** (Prague)
- **Carney** (Carney)
- **Agra** (Agra)

Logan County:

- **Guthrie** (Guthrie)
- **Crescent** (Crescent)
- **Mulhall-Orlando** (Mulhall)
- **Coyle** (Coyle)

Love County:

- **Greenville** (Marietta)
- **Thackerville** (Thackerville)
- **Turner** (Burneyville)
- **Marietta** (Marietta)

Major County:

- **Ringwood** (Ringwood)
- **Aline-Cleo** (Aline)
- **Fairview** (Fairview)
- **Cimarron** (Lahoma)

Marshall County:

- **Madill** (Madill)
- **Kingston** (Kingston)

Mayes County:

- **Wickliffe** (Salina)
- **Osage** (Pryor)
- **Pryor** (Pryor)
- **Adair** (Adair)
- **Salina** (Salina)
- **Locust Grove** (Locust Grove)
- **Chouteau-Mazie** (Chouteau)

McClain County:

- **Newcastle** (Newcastle)
- **Dibble** (Blanchard)
- **Washington** (Washington)
- **Wayne** (Wayne)
- **Purcell** (Purcell)
- **Blanchard** (Blanchard)

McCurtain County:

- **Forest Grove** (Garvin)
- **Lukfata** (Broken Bow)
- **Glover** (Broken Bow)
- **Denison** (Idabel)
- **Holly Creek** (Broken Bow)
- **Idabel** (Idabel)
- **Haworth** (Haworth)
- **Valliant** (Valliant)
- **Eagletown** (Eagletown)
- **Smithville** (Smithville)
- **Wright City** (Wright City)
- **Battiest** (Broken Bow)
- **Broken Bow** (Broken Bow)
- **Southeastern Oklahoma ILC** (Valliant)

McIntosh County:

- **Ryal** (Henryetta)
- **Stidham** (Eufaula)
- **Eufaula** (Eufaula)
- **Checotah** (Checotah)
- **Midway** (Council Hill)
- **Hanna** (Hanna)

Murray County:

- **Sulphur** (Sulphur)
- **Davis** (Davis)

Muskogee County:

- **Wainwright** (Wainwright)
- **Haskell** (Haskell)
- **Fort Gibson** (Fort Gibson)
- **Webbers Falls** (Webbers Falls)
- **Oktaha** (Oktaha)
- **Muskogee** (Muskogee)
- **Hilldale** (Muskogee)
- **Braggs** (Braggs)
- **Warner** (Warner)
- **Porum** (Porum)

Noble County:

- **Perry** (Perry)
- **Billings** (Billings)
- **Frontier** (Red Rock)
- **Morrison** (Morrison)

Nowata County:

- **Oklahoma Union** (South Coffeyville)
- **Nowata** (Nowata)
- **South Coffeyville** (South Coffeyville)

Okfuskee County:

- **Bearden** (Okemah)
- **Mason** (Mason)
- **Paden** (Paden)
- **Okemah** (Okemah)
- **Weleetka** (Weleetka)
- **Graham-Dustin** (Weleetka)

Oklahoma County:

- **Oakdale** (Edmond)
- **Crutch** (Oklahoma City)
- **Charter: Independence Middle School** (Oklahoma City)
- **Charter: Seeworth Academy** (Oklahoma City)
- **Charter: Hupfeld Academy/Western Village** (Oklahoma City)
- **Charter: Dove Science Academy** (Oklahoma City)
- **Charter: Dove Science Elementary** (Oklahoma City)
- **Charter: Harding Charter** (Oklahoma City)
- **Charter: Harding Fine Arts** (Oklahoma City)
- **Charter: Kipp Reach College** (Oklahoma City)
- **Charter: Harper Academy** (Oklahoma City)
- **Charter: Lighthouse Oklahoma City** (Oklahoma City)
- **Charter Santa Fe South** (Oklahoma City)
- **Astec Charters** (Oklahoma City)
- **John W Rex Charter Elementary** (Oklahoma City)
- **Putnam City** (Warr Acres)
- **Luther** (Luther)
- **Choctaw-Nicoma Park** (Choctaw)
- **Deer Creek** (Edmond)
- **Harrah** (Harrah)
- **Jones** (Jones)
- **Edmond** (Edmond)
- **Millwood** (Oklahoma City)

Oklahoma County (continued)

- **Western Heights** (Oklahoma City)
- **Midwest City-Del City** (Midwest City)
- **Crooked Oak** (Oklahoma City)
- **Bethany** (Bethany)
- **Oklahoma City** (Oklahoma City)
- **Oklahoma Youth Academy** (Oklahoma City)
- **Epic One On One Charter School** (Oklahoma City)
- **Oklahoma Virtual Charter Academy** (Midwest City)
- **Oklahoma Connections Academy ILC** (Bartlesville)
- **Insight School of Oklahoma** (Midwest City)
- **Able Charter Able Learning** (Oklahoma City)

Okmulgee County:

- **Twin Hills** (Okmulgee)
- **Okmulgee** (Okmulgee)
- **Henryetta** (Henryetta)
- **Morris** (Morris)
- **Beggs** (Beggs)
- **Preston** (Preston)
- **Schulter** (Schulter)
- **Wilson** (Henryetta)
- **Dewar** (Dewar)

Osage County:

- **Osage Hills** (Bartlesville)
- **Bowring** (Pawhuska)
- **Avant** (Avant)
- **Anderson** (Sand Springs)
- **McCord** (Ponca City)
- **Pawhuska** (Pawhuska)
- **Shidler** (Shidler)
- **Barnsdall** (Barnsdall)
- **Wynona** (Wynona)
- **Hominy** (Hominy)
- **Prue** (Prue)
- **Woodland** (Fairfax)
- **Osage County ILC** (Hominy)

Ottawa County:

- **Turkey Ford** (Wyandotte)
- **Wyandotte** (Wyandotte)
- **Quapaw** (Quapaw)
- **Commerce** (Commerce)
- **Miami** (Miami)
- **Afton** (Afton)
- **Fairland** (Fairland)

Pawnee County:

- **Jennings** (Jennings)
- **Pawnee** (Pawnee)
- **Cleveland** (Cleveland)

Payne County:

- **Oak Grove** (Cushing)
- **Ripley** (Ripley)
- **Stillwater** (Stillwater)
- **Perkins-Tryon** (Perkins)
- **Cushing** (Cushing)
- **Glencoe** (Glencoe)
- **Yale** (Yale)
- **Five-Star ILC** (Cushing)

Pittsburg County:

- **Krebs** (Krebs)
- **Frink-Chambers** (McAlester)
- **Tannehill** (McAlester)
- **Haywood** (McAlester)
- **Carlton Landing Academy** (Carlton Landing)
- **Hartshorne** (Hartshorne)
- **Canadian** (Canadian)
- **Haileyville** (Haileyville)
- **Kiowa** (Kiowa)
- **Quinton** (Quinton)
- **Indianola** (Indianola)
- **Crowder** (Crowder)
- **Savanna** (Savanna)
- **Pittsburg** (Pittsburg)
- **McAlester** (McAlester)

Pontotoc County:

- **Allen** (Allen)
- **Vanoss** (Ada)
- **Byng** (Ada)
- **Ada** (Ada)
- **Latta** (Ada)
- **Stonewall** (Stonewall)
- **Roff** (Roff)

Pottawatomie County:

- **North Rock Creek** (Shawnee)
- **Grove** (Shawnee)
- **Pleasant Grove** (Shawnee)
- **South Rock Creek** (Shawnee)
- **McLoud** (McLoud)
- **Dale** (Dale)
- **Bethel** (Shawnee)
- **Macomb** (Macomb)
- **Earlsboro** (Earlsboro)
- **Tecumseh** (Tecumseh)
- **Shawnee** (Shawnee)
- **Asher** (Asher)
- **Wanette** (Wanette)
- **Maud** (Maud)

Pushmataha County:

- **Albion** (Albion)
- **Tuskahoma** (Tuskahoma)
- **Nashoba** (Nashoba)
- **Rattan** (Rattan)
- **Clayton** (Clayton)
- **Antlers** (Antlers)
- **Moyers** (Moyers)

Roger Mills County:

- **Leedey** (Leedey)
- **Reydon** (Reydon)
- **Cheyenne** (Cheyenne)
- **Sweetwater** (Sweetwater)
- **Hammon** (Hammon)

Rogers County:

- **Justus-Tiawah** (Claremore)
- **Claremore** (Claremore)
- **Catoosa** (Catoosa)
- **Chelsea** (Chelsea)
- **Oologah-Talala** (Oologah)
- **Inola** (Inola)
- **Sequoyah** (Claremore)
- **Foyil** (Foyil)
- **Verdigris** (Claremore)

Seminole County:

- **Justice** (Wewoka)
- **Seminole** (Seminole)
- **Wewoka** (Wewoka)
- **Bowlegs** (Bowlegs)
- **Konawa** (Konawa)
- **New Lima** (Wewoka)
- **Varnum** (Seminole)
- **Sasakwa** (Sasakwa)
- **Strother** (Seminole)
- **Butner** (Cromwell)

Sequoyah County:

- **Liberty** (Muldrow)
- **Marble City** (Marble City)
- **Brushy** (Sallisaw)
- **Belfonte** (Muldrow)
- **Moffett** (Moffett)
- **Sallisaw** (Sallisaw)
- **Vian** (Vian)
- **Muldrow** (Muldrow)
- **Gans** (Gans)
- **Roland** (Roland)
- **Gore** (Gore)
- **Central** (Sallisaw)

Stephens County:

- **Grandview** (Comanche)
- **Duncan** (Duncan)
- **Comanche** (Comanche)
- **Marlow** (Marlow)
- **Velma-Alma** (Velma)
- **Empire** (Duncan)
- **Central High** (Marlow)
- **Bray-Doyle** (Marlow)

Texas County:

- **Optima** (Optima)
- **Straight** (Guymon)
- **Yarbrough** (Goodwell)
- **Guymon** (Guymon)
- **Hardesty** (Hardesty)
- **Hooker** (Hooker)
- **Tyrone** (Tyrone)
- **Goodwell** (Goodwell)
- **Texhoma** (Texhoma)

Tillman County:

- **Tipton** (Tipton)
- **Davidson** (Davidson)
- **Frederick** (Frederick)
- **Grandfield** (Grandfield)

Tulsa County:

- **Keystone** (Sand Springs)
- **Charter: School of Arts and Sciences** (Tulsa)
- **Charter: Kipp Tulsa** (Tulsa)
- **Charter: Tulsa Legacy Charter School Inc** (Tulsa)
- **Charter: College Bound** (Tulsa)
- **Charter: Honor Academy** (Tulsa)
- **Charter: Collegiate Hall** (Tulsa)
- **Charter: Deborah Brown** (Tulsa)
- **Charter: Discovery Schools of Tulsa** (Tulsa)
- **Charter: Sankofa Middle School** (Tulsa)
- **Langston Hughes Academy of Arts and Technology** (Tulsa)
- **Tulsa** (Tulsa)
- **Sand Springs** (Sand Springs)
- **Broken Arrow** (Broken Arrow)
- **Bixby** (Bixby)
- **Jenks** (Jenks)
- **Collinsville** (Collinsville)
- **Skiatook** (Skiatook)
- **Sperry** (Sperry)
- **Union** (Tulsa)
- **Berryhill** (Tulsa)
- **Owasso** (Owasso)
- **Glenpool** (Glenpool)
- **Liberty** (Mounds)

Wagoner County:

- **Okay** (Okay)
- **Coweta** (Coweta)
- **Wagoner** (Wagoner)
- **Porter Consolidated** (Porter)

Washington County:

- **Copan** (Copan)
- **Dewey** (Dewey)
- **Caney Valley** (Ramona)
- **Bartlesville** (Bartlesville)

Washita County:

- **Sentinel** (Sentinel)
- **Burns Flat-Dill City** (Burns Flat)
- **Canute** (Canute)
- **Cordell** (Cordell)

Woods County:

- **Alva** (Alva)
- **Waynoka** (Waynoka)
- **Freedom** (Freedom)

Woodward County:

- **Woodward** (Woodward)
- **Mooreland** (Mooreland)
- **Sharon-Mutual** (Mutual)
- **Fort Supply** (Fort Supply)

Source: Oklahoma State Department of Education

Skills Gap

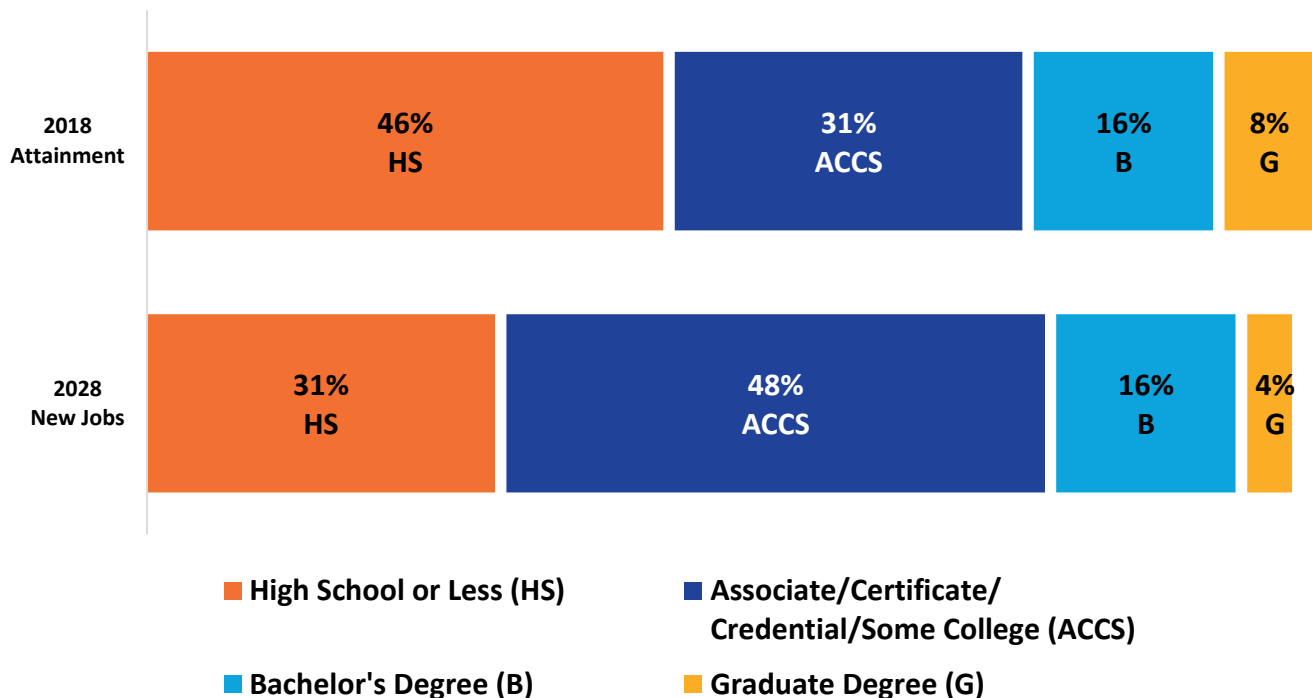
Building upon the educational attainment data presented previously, a skills gap analysis was completed. To achieve this analysis, the current level of educational achievement of Oklahoma residents was directly compared to the typical entry level of education required by newly created jobs projected to develop between 2018 and 2028. A chart entitled “Figure 3: Skills Gap for New Jobs by 2028” follows the analysis and illustrates the educational gap identified.

- Overall, for new jobs created between 2018 and 2028, Oklahoma is predicted to experience a 15 percentage-point skills gap.
- The greatest differential occurs at the Associate degree/Certificate/Credential level. While less than 31% of Oklahomans have attained this level of education, over 48% of new jobs are expected to require it.
- As previously discussed, nearly 46% of residents possess a high school diploma or less while only 31% of newly created jobs will require this level of educational attainment.
- There is a minimal shortage at the Bachelor’s Degree level, 15.9% attainment versus 16.4%.
- Within the aggregated category of “Graduate Degree or Higher,” Oklahoma residents appear well situated to meet the needs of newly created jobs. Current data indicate 8% of residents possess a degree while 4% of new jobs are projected to require that entry level of education.
- It must be noted that three important factors may impact this Skills Gap analysis:
 - 1) Variability of the data. The data utilized for this analysis are based upon projected need which is rooted in historical data. They are, by their very nature, estimates which can change as economic conditions and workforce demands evolve. As time progresses, it is probable that the need for higher degrees will increase.

- 2) Degree misalignment. The projected shortfall of less than one percentage point at the Bachelor's degree level will be significantly compounded by a misalignment of degree specialty. The existence of a sufficient number of individuals possessing a Bachelor's Degree fails to meet the needs of employers if those degrees do not provide the appropriate training necessary to fulfill job requirements. For example, 10 individuals with degrees in management cannot meet the needs of employers requiring 10 engineers.
- 3) Surplus of graduate degrees. It must be considered that the four percentage point "surplus" of individuals who already possess a Graduate Degree or higher may place downward pressure on the need for Bachelor's Degrees as more highly trained job seekers accept positions below their educational attainment. This may somewhat lessen the impact of the projected deficit and degree misalignment at the Bachelor's degree level; however, it is also probable that these individuals may be drawn outside the state for employment better suited to their educational achievement rather than choosing to fill positions with lower educational requirements.

Considering all of these factors, overall, there is a significant need for highly skilled, highly educated residents in the state. Of particular consideration must be increased mentoring and engagement with students at all levels to enhance educational outcomes as well as improved communication to ensure those students 1) make informed decisions regarding their long-term educational plans and 2) align themselves with future workforce needs.

Figure 3: Skills Gap for New Jobs by 2028



Source: EMSI, 2018.2

Critical Occupations List

The Oklahoma Office of Workforce Development (OOWD) continually monitors in-demand and critical occupations across the state. The annual Top 100 Critical Occupations List is longitudinal and focuses on job growth, acknowledging the need for extended time frames to achieve higher levels of education necessary to prepare potential job applicants for future employment. These jobs emphasize the state's desire to 1) meet labor demands so that businesses and entrepreneurs involved in all industries can grow and prosper, and 2) Oklahoma citizens can maintain wealth generating employment.

Occupations must meet several criteria to be included on the list. The methodology includes:

- Vital to one of Oklahoma's five key or four regional/complementary ecosystems (discussed later in this report);
- Projected growth across a 10-year timeline. Eliminates all occupations with projected negative growth (overall job loss);
- Wealth generation. Eliminates occupations with median hourly earnings of less than \$12 per hour; and,
- Educational attainment levels: Eliminates all occupations requiring "no formal education" unless the occupation reports competitive median hourly earnings greater than \$20 per hour.

To ensure representation of occupations from all educational levels, the list of remaining occupations is stratified by the typical entry-level educational requirement and the top ranked occupations are selected from each educational group.

Appendix D contains the most recent Top 100 Critical Occupations as of June 2018. The list is ordered by median hourly earnings, greatest to least.

Commuter Data

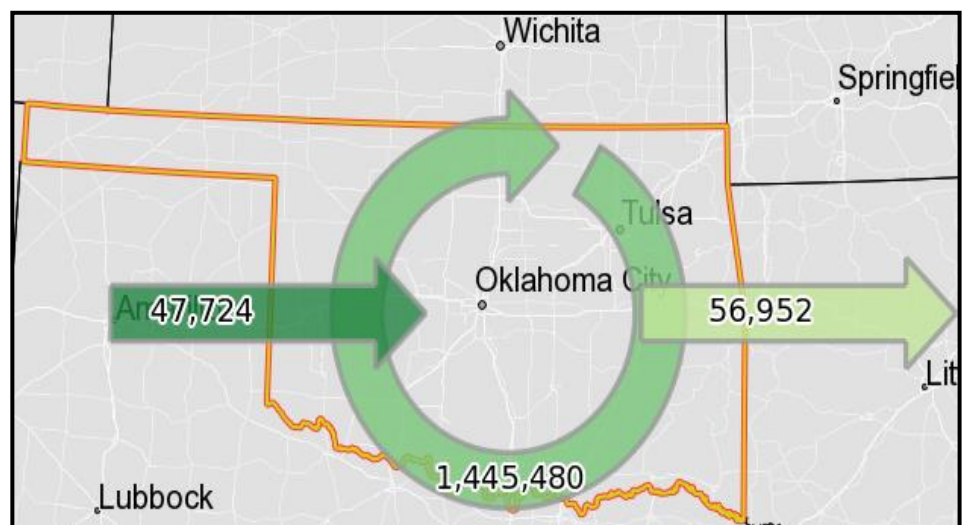
The U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD) program uses data from a variety of sources including the unemployment insurance program, Quarterly Census of Employment and Wages (QCEW), and administrative data from censuses and surveys to create models estimating worker commutes for employment.

According to these models:

- Of the 1.5M Oklahomans of working age, only 4% commute outside the state for employment. This equates to an estimated 56,900 individuals. Most of these workers are:
 - Between the ages of 30 and 54 years;
 - Earn between \$1,251 and \$3,333 per month; and,
 - Work in the "All Other Services" industry classification.

Data indicate the average earnings per year for Oklahomans is \$54,560 per job. Salaries will

Figure 4: Oklahoma Commuter Inflow and Outflow Map



Source: U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD) OnTheMap

vary greatly, however utilizing this average, approximately \$3.1B earned outside the state enters Oklahoma's economy as those workers return home and spend their earnings in their local area.

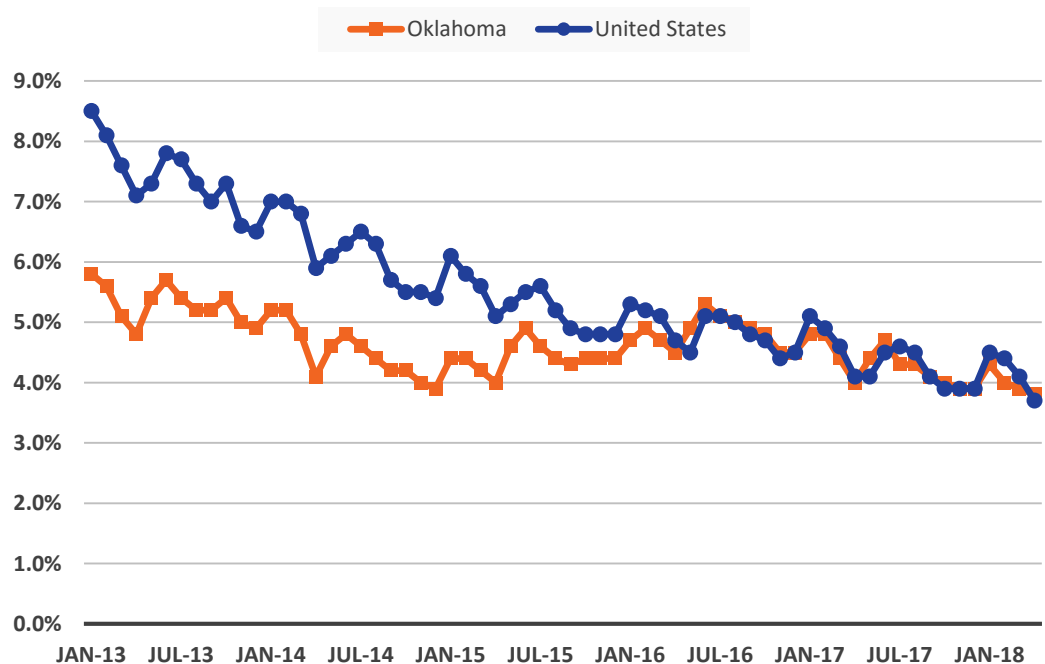
- Approximately 47,700 individuals commute into Oklahoma for employment from other locations. Worker and job characteristics for this cohort are the same as those for the individuals leaving the state as cited previously. Utilizing the same earnings data of \$54,560 per job, these workers remove earnings from Oklahoma's economy of approximately \$2.6B as they return to residences outside the state.
- Overall, Oklahoma experiences a net loss of 9,200 residents to employers outside the state.
- Of those workers leaving the state for employment, nearly half travel to Texas. Other contiguous states experience an influx of Oklahoma workers at a lower level including Kansas, Arkansas, and Missouri.
- Non-contiguous states report the employment of Oklahomans, albeit at a level of less than 1%. These include California, Louisiana, Tennessee, and Florida, among others. These figures highlight the ever-growing opportunities for telework, not only in the United States, but worldwide.

Unemployment Rate

The term "unemployment" refers to individuals who are counted as participating in the labor force, but are not employed. This eliminates consideration of individuals who do not participate in the labor force such as individuals who are unable to work due to a disability, retirees, and individuals of working age who may consciously *choose* to not look for employment such as students. As a result, the unemployment rate cited focuses on individuals seeking, but not attaining, employment.

For this analysis, the average unemployment rates of individuals living in Oklahoma were compared to the average unemployment rates of the nation, over a span of 5 years from January 2013 to December 2017. The data provided are not seasonally adjusted.

Figure 5: 5-year Unemployment Rate Trending, Oklahoma versus United States



Source: Bureau of Labor Statistics, Local Area Unemployment Statistics (BLS LAUS)

- Traditionally, Oklahoma has enjoyed an unemployment rate well below that of the nation. In January 2013, the gap stood at nearly three percentage points. Unfortunately, trending revealed a steady narrowing of that gap. In May 2016 the two rates converged. For the first time in several years, the 4.9% unemployment rate in Oklahoma exceeded the national rate of 4.5%.
- Between May 2016 and December 2017, with minor variations, the rates have been comparable.
- The highest unemployment rate reported in Oklahoma during the 5-year trending period occurred in January 2013 when unemployment reached 5.8%. The rate reached a low of 3.9%, first in December 2014, then again in November and December of 2017.
- The most recent data for 2018 indicate the Oklahoma unemployment rate has steadily decreased from 4.3% in January to a preliminary estimate of 3.8% in April. If this preliminary data from April is confirmed, Oklahoma will have experienced its lowest unemployment rate in over 5 years.
-

North American Industry Classification System (NAICS) Employment Sector Codes

Several of the analyses that follow are based upon data examined using the North American Industry Classification System (NAICS) employment sector codes. The following information is provided to enhance understanding of the framework of these analyses.

NAICS is the standard utilized by federal agencies to classify businesses to collect, analyze, and publish statistical data related to the United States business economy. NAICS uses a 6-digit coding system which is structured hierarchically, beginning with 20 broad economic sectors. Over 1,000 industries are then sub-categorized within these 20 sectors. Each industry within a sector shares distinguishing economic activities. The most recent version of the classification system was implemented in 2017. Additional information is available at www.census.gov/eos/www/naics. A list of the 20 NAICS sectors and the types of industries included can be found in Appendix B at the end of this document.

Standard Occupational Classification (SOC) Occupational Codes

Additional analyses that follow are based upon data examined utilizing Standard Occupational Classification (SOC) occupational codes. The following information is provided to enhance understanding of the framework of these analyses.

The SOC system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definition. To facilitate classification, detailed occupations are combined to form 461 broad occupations, 97 minor groups, and 23 major groups. Detailed occupations in the SOC with similar job duties, and in some cases, skills, education, and/or training, are grouped together. Recently, the 2018 system for SOC was implemented, replacing the 2010 version. Additional information is available at www.bls.gov/soc/. A list of the 23 major groups comprising the 2018 SOC system, as well as examples of the 97 included minor groups can be found in Appendix C at the end of this document.

Top Employment Sectors

The following list highlights the top 10 industry sectors in the state by number of jobs reported. Overall, the top 10 sectors account for nearly 1.4 million jobs representing 83% of all jobs reported in the state in 2018. *Government* is the top employing sector, offering 363,826 jobs at 5,696 payrolled business locations. The *Health Care and Social Assistance* sector ranks second, providing 198,931 jobs at 12,320 business locations, just over one-half of the total reported in the *Government* sector. The 10th ranked sector in the state is *Wholesale Trade*, representing 58,956 jobs.

Table 4: Top 10 Industry Sectors by Number of Jobs Reported

NAICS Sector Group	Sector	2018 Jobs	Payrolled Business Locations	Average Number of Employees Per Location
90	Government	363,826	5,696	64
62	Health Care and Social Assistance	198,931	12,320	16
44	Retail Trade	182,741	13,143	14
72	Accommodation and Food Services	152,704	7,784	20
31	Manufacturing	128,359	4,232	30
56	Administrative and Support and Waste Management and Remediation Services	96,198	7,410	13
23	Construction	80,869	9,779	8
54	Professional, Scientific, and Technical Services	71,197	12,287	6
81	Other Services (except Public Administration)	64,870	6,742	10
42	Wholesale Trade	58,956	7,296	8

Source: EMSI 2018.2

Average Earnings by Industry Sector

Annual employee earnings, averaged by the sector in which they work, are examined in this section of the report. While data are provided for average earnings per job in Oklahoma, analyses are performed based upon Oklahoma's Cost of Living (COL) Adjusted Total Current Earnings. Adjusting for cost of living differences allows for a more accurate comparison between state and national earnings.

- The top 10 industry sectors by earnings represent a total of 549,597 jobs – 32.6% of all jobs in the state – and 49,712 payrolled business locations, 45.2% of the state total.
- Individuals working in the *Utilities* sector report the highest average COL earnings per job of \$144,857 annually. *Mining, Quarrying, and Oil and Gas Extraction* ranks second with average annual earnings of \$131,545.

- Of the top 10 highest earning sectors, only two experience COL earnings above the national average. These include the *Mining, Quarrying, and Oil and Gas Extraction* sector where Oklahoma earnings exceed the national average by 6.8%. The *Transportation and Warehousing* sector experiences a greater differential rate between state and national at 12.3%, an average of \$9,000 more per job per year.
- *Construction* is the lowest-ranked sector on the list with COL annual earnings of \$66,027, almost 9% below national earnings and less than one-half of the top-ranked *Utilities* earnings.
- While employees of the *Utilities* sector experience the highest earnings, employment opportunities are limited. With just over 10,000 jobs available, the sector offers the fewest positions of all top-ten sectors and less than 1% of the total occupational opportunities in the state.
- When comparing state COL with national earnings, the largest gaps appear within the *Information* and the *Finance and Insurance* sectors. Both sectors trail the national average by over 50%.
- Of the top-ten sectors by earnings, Manufacturing offers the most jobs at 128,359; however, the sector only ranks 7th in COL earnings at \$75,332, 17% below the national average.

Table 5: Top 10 Industry Sectors by Average Earnings

NAICS Sector Group	Sector	2018 Jobs	Oklahoma Average Earnings Per Job	Oklahoma Average Earnings – Cost of Living Adjusted	National Average Earnings Per Job	Differential Percentage
22	Utilities	10,886	\$133,268	\$144,857	\$146,166	0.9%
21	Mining, Quarrying, and Oil and Gas Extraction	46,360	\$121,022	\$131,545	\$122,470	(6.8%)
55	Management of Companies and Enterprises	19,109	\$98,962	\$107,568	\$137,179	27.5%
54	Professional, Scientific, and Technical Services	71,197	\$73,207	\$79,573	\$106,417	33.7%
52	Finance and Insurance	57,929	\$72,521	\$78,827	\$121,410	54.0%
51	Information	20,180	\$70,224	\$76,331	\$120,544	58.0%
31	Manufacturing	128,359	\$69,305	\$75,332	\$82,340	9.3%
42	Wholesale Trade	58,956	\$68,417	\$74,366	\$87,246	17.3%
48	Transportation and Warehousing	55,752	\$67,778	\$73,672	\$64,614	(12.3%)
23	Construction	80,869	\$60,745	\$66,027	\$71,819	8.8%

Source: EMSI 2018.2

Top Occupations by Number of Jobs

This analysis examines the prevalence of job classifications in the state. A table summarizing the top 10 occupations by number of jobs follows the analysis.

- The top 10 occupations represent 338,081 jobs; 20.1% of the total jobs reported in the state in 2018. By 2028, the number of jobs projected to be available in these 10 occupations will be 358,779, representing a growth rate of 6.1%.
- *Retail Salespersons* is the most common occupation in the state with 47,691 reported positions. Median hourly earnings for the job are \$10.47 and educational requirements are minimal at short-term on-the-job training. *Cashiers* rank second with 42,737 positions at \$9.22 per hour and the same low educational level.
- Eight of the top ten most common occupations require minimal education or experience of short-term on-the-job training. This level of education implies that no formal education is required and even individuals who have not completed a high school diploma are qualified to perform the occupational duties.

One occupation requires post-secondary education – *Registered Nurses*. While data indicate many health care employers prefer a Bachelor’s degree, qualifications for the position are met by the attainment of an Associates degree.

Educational requirements for the final category – *Military Occupations* – vary significantly and are therefore not available for this analysis. That said, the U.S. Census Bureau American Community Survey of 2016, 1-year estimate data indicate that veterans possess higher levels of education than non-veterans. Approximately 65.6% of veterans report attending college or earning some level of degree versus 59.7% of non-veterans. Only 6.3% of veterans lack a high school diploma, less than one-half the rate of non-veterans. Based upon this data, it can be hypothesized that many *Military Occupations* require post-secondary education.

- Overall, earnings for the top ten occupations are low. Three occupational categories experience median hourly earnings of less than \$10 including *Cashiers*; *Combined Food Preparation and Serving Workers, Including Fast Food*; and *Waiters and Waitresses*. *Retail Salespersons* report earnings at a marginally higher rate of \$10.47.

The highest level of median earnings is reported for *Registered Nurses* at \$28.49 per hour. No other occupations exceed \$20 per hour median earnings.

- The highest projected growth is found in the occupation of *Combined Food Preparation and Serving Workers, Including Fast Food* which is anticipated to add 4,770 new jobs between 2018 and 2028. *Military Occupations* is the only occupational category projected to decline, losing an estimated 1,002 jobs by 2028.

Table 6: Top Occupations by Number of Jobs

Occupation	2018 Jobs	2028 Jobs	Change	Median Hourly Earnings	Education or Experience Level
Retail Salespersons	47,691	51,870	4,179	\$10.47	Short-term on-the-job training
Cashiers	42,737	45,534	2,797	\$9.22	Short-term on-the-job training
Combined Food Preparation and Serving Workers, Including Fast Food	35,695	40,465	4,770	\$8.69	Short-term on-the-job training
Office Clerks, General	34,557	35,935	1,378	\$12.56	Short-term on-the-job training
Military Occupations	32,740	31,738	(1,002)	\$15.08	Not Available – varies
Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	31,759	32,850	1,091	\$14.19	Short-term on-the-job training
Customer Service Representatives	28,856	30,466	1,610	\$14.34	Short-term on-the-job training
Waiters and Waitresses	28,075	29,347	1,272	\$8.95	Short-term on-the-job training
Registered Nurses	28,075	30,633	2,558	\$28.49	Associates Degree
Laborers and Freight, Stock, and Material Movers	27,896	29,940	2,044	\$12.94	Short-term on-the-job training

Source: EMSI, 2018.2

Highest-Earning Occupational Groups

For this analysis, individual occupations are aggregated and reported by Standard Occupational Classification (SOC) major group. The table that follows highlights the top paying occupational groups in the state by median hourly earnings. In order to provide a more accurate assessment of Oklahoma earnings when compared with national earnings, the Oklahoma Cost of Living (COL) Adjusted Median Hourly Earnings are utilized throughout this analysis.

- The top 10 paying occupational groups include 542,416 individual jobs; 32.2% of the total jobs reported in the state.
- Two of the top 10 highest paying occupational groups report median hourly earnings slightly above national medians including:
 - Architecture and Engineering Occupations, exceeding national earnings by 16 cents per hour; and,
 - Installation, Maintenance, and Repair Occupations, exceeding national earnings by 39 cents per hour.

Of those occupational groups with earnings less than the national median, the greatest gap is found in *Management Occupations*. Median hourly salaries for this group exhibit a differential of \$7.90 per hour – \$40.34 for Oklahoma COL versus \$48.24 at the national level.

- While falling below national median earnings, *Management Occupations* still provide the highest median hourly earnings in the state at the aforementioned \$40.34.

- Despite reporting competitive earnings greater than \$25 per hour, *Legal Occupations* (\$32.84) and *Life, Physical and Social Science Occupations* (\$27.67) offer fewer employment opportunities. Of 1.6 million jobs reported in the state in 2018, only 11,040 jobs were reported in *Life, Physical and Social Science Occupations* and 12,719 in *Legal Occupations*.
- *Construction and Extraction Occupations* are ranked 10th in the list with median hourly earnings of \$19.92, 5.4% below the national median.
- The top three occupational groups in the state, ordered by the number of jobs reported in 2018, are:
 - *SOC Group Code 43: Office and Administrative Support Occupations* (264,422 jobs);
 - *SOC Group Code 41: Sales and Related Occupations* (162,534 jobs); and,
 - *SOC Group Code 35: Food Preparation and Serving Related Occupations* (160,770 jobs).

Despite the fact these three major groups account for 587,726 – over one-third of the total jobs in the state – none are included in the list of Top 10 Paying Occupational Groups due to low Oklahoma COL median earnings ranging from \$9.87 to \$16.00 per hour.

Table 7: Top 10 Occupational Groups by Average Earnings

SOC Group Code	Occupations	2018 Jobs	Oklahoma Median Hourly Earnings	Oklahoma Median Hourly Earnings – Cost of Living Adjusted	National Median Hourly Earnings	Differential Percentage
11	Management	91,516	\$37.11	\$40.34	\$48.24	19.6%
17	Architecture and Engineering	28,047	\$34.66	\$37.67	\$37.51	(0.4%)
15	Computer and Mathematical	32,178	\$30.49	\$33.14	\$39.52	19.3%
23	Legal	12,719	\$30.21	\$32.84	\$38.37	16.8%
13	Business and Financial Operations	70,958	\$27.61	\$30.01	\$32.04	6.8%
29	Healthcare Practitioners and Technical	99,172	\$25.55	\$27.77	\$30.75	10.7%
19	Life, Physical, and Social Science	11,040	\$25.46	\$27.67	\$30.61	10.6%
49	Installation, Maintenance and Repair	77,309	\$19.52	\$21.22	\$20.83	(1.8%)
21	Community and Social Service	34,385	\$18.70	\$20.33	\$20.48	0.7%
47	Construction and Extraction	85,092	\$18.33	\$19.92	\$20.99	5.4%

Source: EMSI 2018.2

Oklahoma Ecosystems: Employment and Earnings

Oklahoma has identified five “**key**,” in demand, industry clusters known as “ecosystems” which provide the state with a competitive advantage in a global economy. They exhibit significant potential for employment growth and provide wealth generating employment opportunities. The five key ecosystems’ demand industries produce or provide similar goods and services and therefore have similar needs in workforce, infrastructure, and economic development policy. These ecosystems include Aerospace and Defense, Agriculture and Biosciences, Energy, Information and Finance, and Transportation and Distribution.

In addition to the five statewide key ecosystems, four “**regional/complementary**” ecosystems important to local economies have been identified, including Construction, Education, Health Care, and Manufacturing. A summary table of ecosystem data is provided for ease of ecosystem comparison, followed by an analysis of each individual key and regional/complementary ecosystem.

Table 8: Comparison of Oklahoma Ecosystem Characteristics

Ecosystem	Estimated Net Job Growth (2018-2028)	Ecosystem Growth Rate (2018-2028)	Average Annual Earnings	Comments
Aerospace and Defense	2,753	2.7%	\$69,923	
Agriculture and Bioscience	5,534	7.2%	\$61,077	
Energy	5,565	5.7%	\$107,858	Highest average earnings
Information and Financial Services	5,335	5.2%	\$79,762	Second highest average earnings
Transportation and Distribution	10,635	8.7%	\$69,253	
Construction	16,802	9.5%	\$60,965	Second highest percentage of growth. Second highest in new job creation by 2028.
Education	(1,244)	(0.8%)	\$47,790	Only ecosystem to decline in jobs by 2028.
Health Care	28,178	11.9%	\$55,936	Greatest percentage of growth. Most newly-created jobs by 2028.
Manufacturing	710	1.0%	\$73,106	

Source: EMSI, 2018.2

Aerospace and Defense Ecosystem (Key).

In 2018, there were approximately 102,420 jobs in the Aerospace and Defense Ecosystem in the state with average annual earnings per job of \$69,923. By 2028, employment within this ecosystem is projected to grow to over 105,000. Overall, employment within the ecosystem is anticipated to increase by a net 2,753 jobs; a growth rate of 2.7%.

The list below, ordered alphabetically by occupation, highlights a few of the occupations employed by industries within the Aerospace and Defense Ecosystem, though it must be noted that the aggregated category of *military occupations* dominates the employment opportunities in this ecosystem. It should also be noted that these positions are not limited to employment within the Aerospace and Defense Ecosystem, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 9: Examples of Occupations Employed by the (Key) Aerospace and Defense Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
49-3011	Aircraft Mechanics and Service Technicians	\$27.75	Postsecondary nondegree award
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$17.69	Moderate-term on-the-job training
15-1151	Computer User Support Specialists	\$19.69	Some college, no degree
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
51-4041	Machinists	\$20.07	Long-term on-the-job training
13-1111	Management Analysts	\$33.84	Bachelor's degree
43-9061	Office Clerks, General	\$12.56	Short-term on-the-job training
43-6014	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	\$14.19	Short-term on-the-job training
15-1132	Software Developers, Applications	\$39.05	Bachelor's degree
51-4121	Welders, Cutters, Solderers, and Brazers	\$19.07	Moderate-term on-the-job training

Source: EMSI, 2018.2

Agriculture and Bioscience Ecosystem (Key).

Over 76,800 employment opportunities were reported statewide in the Agriculture and Bioscience ecosystem. By 2028, the ecosystem is anticipated to grow 7.2%, creating 5,534 new jobs. Average annual earnings in the ecosystem are \$61,077 per job.

The list below, ordered alphabetically by occupation, highlights some of the occupations employed by industries within the Agriculture and Bioscience Ecosystem in the state. These positions are not limited to employment within this particular ecosystem, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 10: Examples of Occupations Employed by the (Key) Agriculture and Bioscience Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	\$11.88	Short-term on-the-job training
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$19.28	Postsecondary nondegree award
53-7051	Industrial Truck and Tractor Operators	\$15.10	Short-term on-the job training
51-9111	Packaging and Filling Machine Operators and Tenders	\$11.85	Moderate-term on-the-job training
51-9196	Paper Goods Machine Setters, Operators, and Tenders	\$21.14	Moderate-term on-the-job training
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$23.63	High school diploma
51-3023	Slaughterers and Meat Packers	\$10.84	Short-term on-the-job training
29-1131	Veterinarians	\$39.73	Doctoral or professional degree
31-9096	Veterinary Assistants and Laboratory Animal Caretakers	\$11.36	Short-term on-the-job training

Source: EMSI, 2018.2

Energy Ecosystem (Key).

In 2018, 97,434 jobs were reported in the Energy Ecosystem. By 2028, the ecosystem is projected to grow by 5,565 new jobs, a growth rate of 5.7%. Average annual earnings per job are reported at \$107,858.

The list below, ordered alphabetically by occupation, highlights a few of the occupations employed by industries within the Energy Ecosystem. Many of the occupations within the ecosystem rely heavily on physical labor, resulting in lower educational attainment requirements. It should be noted that these positions are not limited to employment within this ecosystem, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 11: Examples of Occupations Employed by the (Key) Energy Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
47-2061	Construction Laborers	\$13.78	Short-term on-the-job training
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$28.94	5 years or more
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$19.28	Postsecondary nondegree award
17-2171	Petroleum Engineers	\$55.32	Bachelor's degree
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	\$32.97	Moderate-term on-the-job training
47-5012	Rotary Drill Operators, Oil and Gas	\$25.29	Moderate-term on-the-job training
47-5071	Roustabouts, Oil and Gas	\$17.89	Moderate-term on-the-job training
47-5013	Service Unit Operators, Oil, Gas, and Mining	\$20.54	Moderate-term on-the-job training
51-4121	Welders, Cutters, Solderers, and Brazers	\$19.07	Moderate-term on-the-job training

Source: EMSI, 2018.2

Information and Financial Services Ecosystem (Key).

In 2018, there were 101,980 jobs reported in the Information and Financial Services Ecosystem. By 2028, that figure is expected to increase to 107,315, a growth rate of 5.2%. The average annual earnings per job are approximately \$79,762.

The list below, ordered alphabetically by occupation, highlights some of the occupations employed by industries within the Information and Financial Services ecosystem. It should be noted that these positions are not limited to employment within this ecosystem, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 12: Examples of Occupations Employed by the (Key) Information and Financial Services Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
13-2011	Accountants and Auditors	\$29.34	Bachelor's degree
43-3031	Bookkeeping, Accounting, and Auditing Clerks	\$16.67	Some college, no degree
15-1151	Computer User Support Specialists	\$19.69	Some college, no degree
11-3031	Financial Managers	\$43.58	Bachelor's degree
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$22.69	Less than 5 years experience
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
43-4131	Loan Interviewers and Clerks	\$13.97	Short-term on-the-job training
13-2072	Loan Officers	\$25.61	Bachelor's degree
15-1132	Software Developers, Applications	\$39.05	Bachelor's degree
43-3071	Tellers	\$11.73	Short-term on-the-job training

Source: EMSI, 2018.2

Transportation and Distribution Ecosystem (Key).

Over 122,100 jobs were reported in the Transportation and Distribution Ecosystem in 2018 with average annual earnings per job of approximately \$69,253. By 2028, employment is projected to increase by 10,635, a growth rate of 8.7%.

The list below, arranged alphabetically by occupation, highlights a few of the occupations employed by industries within the Transportation and Distribution ecosystem. It should be noted that these positions are not limited to employment within this particular ecosystem, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 13: Examples of Occupations Employed by the (Key) Transportation and Distribution Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
49-3011	Aircraft Mechanics and Service Technicians	\$27.75	Postsecondary nondegree award
43-4051	Customer Service Representatives	\$14.34	Short-term on-the-job training
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$19.28	Postsecondary nondegree award
53-7051	Industrial Truck and Tractor Operators	\$15.10	Short-term on-the-job training
53-7062	Laborers and Freight, Stock, and Material Movers, Hand	\$12.94	Short-term on-the-job training
53-3033	Light Truck or Delivery Services Drivers	\$14.75	Short-term on-the-job training
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$23.63	Moderate-term on-the-job training
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$27.86	Bachelor's degree
51-2092	Team Assemblers	\$14.35	Moderate-term on-the-job training

Source: EMSI, 2018.2

Construction Ecosystem (Regional/Complementary).

Construction is a regional/complementary ecosystem with 176,516 job reported in 2018. The average annual earnings per job in the Construction ecosystem were \$60,965. By 2028, employment is projected to increase to 193,3818, a growth rate of 9.5%.

The list below, arranged alphabetically by occupation, highlights some of the occupations employed by industries within the Construction regional/complementary ecosystem. It should be noted that these positions are not limited to employment within Construction, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 14: Examples of Occupations Employed by the (Regional/Complementary) Construction Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
47-2031	Carpenters	\$17.42	Apprenticeship
47-2051	Cement Masons and Concrete Finishers	\$15.85	Moderate-term on-the-job training
47-2061	Construction Laborers	\$13.78	Short-term on-the-job training
11-9021	Construction Managers	\$35.55	Bachelor's degree
47-2111	Electricians	\$23.47	Apprenticeship
51-1011	First-Line Supervisors of Construction Trades and Extraction Workers	\$28.94	5 years or more experience
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$19.28	Postsecondary non-degree award
47-2152	Plumbers, Pipefitters, and Steamfitters	\$22.23	Apprenticeship
41-2031	Retail Salespersons	\$10.47	Short-term on-the-job training

Source: EMSI, 2018.2

Education Ecosystem (Regional/Complementary).

The regional/complementary ecosystem of Education accounted for approximately 155,172 jobs in 2018 with average earnings per job of \$47,790. By 2028, employment is projected to decrease to 153,928, a loss of 1,244 positions and growth rate of (0.8%).

The list below, presented in alphabetical order by occupation, highlights some of the occupations employed by industries within the Education Ecosystem. Many of the occupations within Education are extremely specialized but may still be in demand from other sectors, industries, and ecosystems across the state.

Table 15: Examples of Occupations Employed by the (Regional/Complementary) Education Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
53-3022	Bus Drivers, School or Special Client	\$9.53	Short-term on-the-job training
11-9033	Education Administrators, Elementary and Secondary School	\$34.26	Master's degree
21-1012	Educational, Guidance, School, and Vocational Counselors	\$19.86	Master's degree
25-2021	Elementary School Teachers, Except Special Education	\$18.67	Bachelor's degree
25-2012	Kindergarten Teachers, Except Special Education	\$18.36	Bachelor's degree
25-2022	Middle School Teachers, Except Special Education and Career/Technical Education	\$19.37	Bachelor's degree
25-1099	Postsecondary Teachers	\$27.45	Doctoral or professional degree
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	\$19.61	Bachelor's degree
25-3098	Substitute Teachers	\$8.89	Bachelor's degree
25-9041	Teacher Assistants	\$8.91	Some college, no degree

Source: EMSI, 2018.2

Health Care Ecosystem (Regional/Complementary).

Health Care is considered a regional/complementary ecosystem. Records indicate 236,730 jobs were reported in 2018, with average annual earnings of \$55,936 per job. By 2028, employment within this ecosystem is projected to increase to 264,908, a growth rate of 11.9%.

The list below, organized alphabetically based on occupation, highlights some of the occupations employed by industries within the Health Care regional/complementary ecosystem. Like the Education ecosystem, these positions appear to be highly specialized within the Health Care sector, but it must be remembered that other industries do employ health care specialists and there is competition among several other sectors, industries, and ecosystems for these skilled workers.

Table 16: Examples of Occupations Employed by the (Regional/Complementary) Health Care Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
31-9091	Dental Assistants	\$16.24	Postsecondary nondegree award
31-1011	Home Health Aides	\$11.11	Short-term on-the-job training
29-2061	Licensed Practical and Licensed Vocational Nurses	\$18.64	Postsecondary nondegree award
11-9111	Medical and Health Services Managers	\$37.09	Bachelor's degree
31-9092	Medical Assistants	\$13.90	Postsecondary nondegree award
43-6013	Medical Secretaries	\$14.06	Short-term on-the-job training
31-1014	Nursing Assistants	\$11.24	Postsecondary nondegree award
39-9021	Personal Care Aides	\$9.01	Short-term on-the-job training
29-2052	Pharmacy Technicians	\$13.98	Moderate-term on-the-job training
29-1141	Registered Nurses	\$28.49	Associates degree

Source: EMSI, 2018.2

Manufacturing Ecosystem (Regional/Complementary).

The regional/complementary ecosystem of Manufacturing is unique in that components of the Manufacturing sector are consistently embedded throughout each key ecosystem and included in those analyses. However, it is interesting and broadens the base of knowledge about the sector to focus an analysis specifically on manufacturing-related occupations.

The Manufacturing regional/complementary ecosystem accounted for only 72,122 jobs in 2018, with average earnings per job of \$73,106. By 2028, employment is projected to increase to 72,832 jobs, a growth rate of 1.0%

The list below, arranged in alphabetical order by occupation, highlights a few of the occupations employed by industries within the Manufacturing regional/complementary ecosystem. These positions are not limited to employment strictly within Manufacturing Ecosystem industries, but rather, may be in demand by many other sectors, industries, and ecosystems across the state.

Table 17: Examples of Occupations Employed by the (Regional/Complementary) Manufacturing Ecosystem

SOC	Occupation	Median Hourly Earnings	Education or Experience Level
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	\$17.69	Moderate-term on-the-job training
51-4031	Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic	\$14.26	Moderate-term on-the-job training
51-2022	Electrical and Electronic Equipment Assemblers	\$14.81	Moderate-term on-the-job training
51-1011	First-Line Supervisors of Production and operating Workers	\$25.56	Less than 5 years experience
11-1021	General and Operations Managers	\$37.47	Bachelor's degree
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$18.07	Moderate-term on-the-job training
51-4041	Machinists	\$20.07	Long-term on-the-job training
51-4081	Multiple Machine Tool Setters, Operators, and Tenders, Metal and Plastic	\$16.24	Moderate-term on-the-job training
51-2092	Team Assemblers	\$14.35	Moderate-term on-the-job training
51-4121	Welders, Cutters, Solderers, and Brazers	\$19.07	Long-term on-the-job training

Source: EMSI, 2018.2